



March 1, 1999

Mr. Paul W. Dinkel
Texaco Global Gas & Power
P.O. Box 7877
Burbank, CA 91510-7877

Dear Mr. Dinkel,

SUNRISE COGENERATION AND POWER PROJECT DATA REQUESTS

Pursuant to Title 20, California Code of Regulations, section 1716, the California Energy Commission staff requests the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project; 2) assess whether the facility will be constructed and operated in compliance with applicable regulations; 3) assess whether the project will result in significant environmental impacts; 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner; and 5) assess project alternatives and potential mitigation measures.

Data requests are being made in the areas of: air quality, biological resources, cultural resources, facility design, hazardous materials management, land use, project overview, socioeconomics, soils and water resources, transmission system engineering, and visual resources. Written responses to the enclosed data requests are due to the Energy Commission staff on or before March 31, 1999, or at such later date as may be mutually agreed.

If you are unable to provide the information requested, need additional time to provide the information or object to providing it, you must, within 15 days of receipt of this notice, send a written notice to both Commissioner Michal C. Moore, Presiding Member of the Committee for the Sunrise Cogeneration and Power Project proceeding, and me. The notification must contain the reasons for not providing the information, the need for additional time and the grounds for any objections (see Title 20, California Code of Regulations section 1716 (e)).

A publicly noticed workshop is scheduled for March 10, 1999, at 9 a.m., California Energy Commission, 1516 9th Street, Sacramento, California, to discuss and clarify these data requests. Staff will be available to answer questions regarding the data requests and the level of detail required to answer the requests satisfactorily. If you have any questions regarding the enclosed data requests, please call me at (916) 654-4242.

Sincerely,

Kristina C. Bergquist
Siting Project Manager

Enclosure

cc: Sunrise Project Proof of Service List
Agency List

KCB:rk

**SUNRISE COGENERATION AND POWER PROJECT
DATA REQUESTS
(98-AFC-4)**

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SUNRISE COGENERATION AND POWER PROJECT DATA REQUESTS (98-AFC-4)

Technical Area: Air Quality

Author: Joe Loyer

ISSUE: The applicant has stated in their Application for Certification (AFC) that they will be supplying steam to the nearby Texaco heavy oil production fields for use in thermally enhanced oil recovery applications. As a result of the substantial increase in available steam from the proposed project, Texaco will most likely increase their oil production in the area. This may result in more wells being drilled, higher emissions from existing wells and increased fugitive dust emissions from increased operational activity and construction.

The San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) has indicated that they will be requiring a new source review (NSR) analysis of Texaco's western Kern County heavy oil production fields to complete their determination of compliance (DOC). This will include not only the oilfields, but also the proposed power plant project and possibly the Texaco North American Production (TNAP) utility corridor. An NSR analysis will include a determination of best available control technology (BACT) for the new sources, an ambient air quality impact assessment, and may potentially require offsets.

Staff will require this NSR analysis to determine what aspects of the increased industrialization of the oilfields are indirectly related to the proposed power plant. Additionally, staff will require an estimate of emissions and ambient air quality impacts from construction activities in the Texaco western Kern County heavy oil production fields to address the potential for cumulative impacts.

1. Please provide the following information on all construction activities associated with new or existing wells in the Texaco western Kern County heavy oil production fields that will likely receive steam from the TNAP utility corridor.
 - a. Identify the construction equipment to be used for the well development.
 - b. Estimate the duration of the construction activities.
 - c. Estimate the emissions associated with construction activities (such as earth moving) and construction equipment (combustion emissions), including NO_x, SO₂, CO, VOC, PM₁₀ and fugitive dust.
2. Please provide the following information for all new air emission sources associated with new or existing wells, in the Texaco western Kern County heavy oil production fields that will likely receive steam from the TNAP utility corridor.
 - a. Identify the expected location of each well (i.e., UTM coordinate).

- b. Estimate the operational emissions from each well on an hourly basis, or provide hourly emission factors, for VOC, PM₁₀ and fugitive dust.
3. Please provide the sources for all the information identified above.

ISSUE: The applicant has stated in their AFC that they intend to use natural gas and other resources or services (i.e., freshwater, feedwater, wastewater and steam lines) provided by the TNAP utility corridor. The TNAP utility corridor is currently under construction and is clearly partly intended to serve the needs of the proposed power plant. It therefore may qualify as an indirect emission source for the proposed project. It is also clear that the TNAP utility corridor will serve several existing, and potentially future, field steam generators in the Texaco oilfields.

4. Please provide the following information on all construction activities associated with the TNAP utility corridor.
 - a. Identify the construction equipment to be used.
 - b. Estimate the duration of the construction activities.
 - c. Estimate the emissions associated with construction activities (such as earth moving) and construction equipment (combustion emissions), including NO_x, SO₂, CO, VOC, PM₁₀ and fugitive dust.
5. Please identify and describe any emissions of NO_x, SO₂, CO, VOC, PM₁₀ and fugitive dust associated with the operation of the TNAP utility corridor.
6. Please provide the following information associated with all devices that might be utilizing the resources and services provided by the TNAP utility corridor.
 - a. Identify the rated capacity and expected use of each device for natural gas use, process water use, wastewater production and steam production.
 - b. Identify the expected location of each device (i.e., UTM coordinate).
 - c. Estimate the operational emissions from each device on an hourly basis, or provide hourly emission factors, for NO_x, SO_x, CO, VOC, PM₁₀ and fugitive dust.
 - d. Estimate the actual and/or effective stack height of each device.
7. Please provide the sources for all the information identified above.

ISSUE: The applicant has identified specific startup and shutdown emissions for NO_x, SO_x, CO, VOC and PM₁₀. These emissions seem to be realistic however, the applicant does not explicitly identify the source of these emission estimates.

8. Please identify the source of the startup/shutdown emissions stated on page 8.1-33 of the AFC.

ISSUE: The applicant has modeled NO_x emissions for the most reasonable worst case scenario, assuming the two turbines startup in 20 minutes and run at full capacity for 40 minutes. Although an initial estimate by staff suggests that the proposed SCR is not in operation during the 20-minute startup period, the applicant has not stated this as fact. The applicant has also modeled the ambient conditions at 115 °F and 15% relative humidity (Appendix B). These ambient conditions result in a slight decrease in hourly emissions when compared to the case of 15 °F and 100% relative humidity (there is also a slight difference in the exit velocity for these two cases). Staff would like to know the rational for using what is potentially a lower emission impact scenario as the most reasonable worst case scenario.

9. Please describe when, during the start-up scenario, the appropriate temperatures for complete NO_x control with the SCR will be reached.
10. Please state the rational for identifying the most reasonable worst case scenario for modeling purposes.

ISSUE: The applicant has identified that they intend to use emission reduction credits (ERCs) available from the SJVUAPCD bank. They have identified the estimated amount of ERCs they will need. However, they have not identified the exact ERCs they will purchase. Staff is aware that, at this time, the applicant does not know the specific ERCs they will be purchasing. However, staff will need to know the specific ERCs that the applicant will purchase at the time of the issuance of the Final Staff Assessment (FSA).

11. Please provide letters of intent for the specific ERCs purchased for the mitigation of the proposed project, or a schedule indicating when the ERCs will be available.

Technical Area: Biological Resources

Author: Rick York

ISSUE: The applicant has identified (Table 8.2-11, AFC page 8.2-19) the acreage amounts for the temporary and permanent impacts associated with the proposed project. Staff is having some difficulty understanding the total acreage amounts identified in the AFC. Additionally, the acreage amounts found in revised Table 8.2-11 (January 1999) do not total properly. Also, revised Table 8.2-11 does not agree the acreage amounts found in Table 12 on page 17 of the revised Biological Assessment.

12. How many acres will be temporarily and permanently impacted by the construction and usage of the project construction laydown area? Will any portion of the laydown area be permanently impacted by the power plant, switchyard and/or the switching station?
13. What will happen to the laydown area after construction is completed? Will the laydown area be restored?
14. The project description indicates that 16-acres will be needed for construction of the power plant. However, revised Table 8.2-11 indicates that only 12.4-acres will be permanently impacted. Please provide a more complete Table 8.2-11 that includes:
 - a. all project facilities (power plant, laydown area, switchyard, switching station and each linear facility including transmission line alternatives, natural gas pipeline, freshwater pipeline, produced water pipeline, wastewater pipeline, and steamline);
 - b. total amounts of permanent and temporary impacted acreage associated with each project facility and each plant community type (annual grassland, valley saltbush scrub, iodine bush scrub, etc.); and
 - c. Total amounts of permanent and temporary acreage impact amounts for conserved lands and private lands. (Conserved lands are defined as lands managed by either a federal or state agency such as the U.S. Bureau of Land Management (BLM), U.S. Department of Energy (DOE), or the California Department of Fish and Game (CDFG) or a private habitat protection organization such as the Center for Natural Lands Management).
15. Please also identify the habitat compensation acreage amounts that would result from applying the habitat compensation ratios identified on pages 8.2-24 and 8.2-25 of the revised AFC Biological Resources section.

ISSUE: Due to the many sensitive biological resources found in the project region, the applicant will need to develop a Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) to be utilized during project construction and operation. The applicant will work with the Energy Commission staff, the CDFG and the U. S. Fish and

Wildlife Service to develop a draft plan prior to project certification. A draft BRMIMP will need to be provided to Energy Commission, prior to the completion of the FSA so information contained in the BRMIMP can be included in the staff assessment. If the project is certified, a final, Energy Commission-approved BRMIMP will need to be completed and ready for use prior to the start of any project construction.

16. Please provide an update on the work being done to create the draft BRMIMP. In addition, please provide a preliminary outline of what will be included in the BRMIMP, and identify when the applicant intends to provide a draft BRMIMP.

ISSUE: No discussion is provided about whether or not a CDFG Streambed Alteration Permit is necessary for the proposed project, however several ephemeral streams may be temporarily impacted during construction of the transmission line.

17. Based on your conversation with the CDFG, will a streambed alteration permit be required for the construction of the linear facilities through ephemeral streams. In addition, please identify the CDFG, Region 4, Streambed Alteration Permit contact.

ISSUE: As with past projects (Midway-Sunset Cogeneration Project, 85-AFC-3, and the Sycamore Cogeneration Project, 84-AFC-6), staff is concerned about the indirect effects of the proposed projects on sensitive biological resources and their habitat. Since the Sunrise project is proposing to provide steam to the surrounding oilfield for enhanced oil recovery, staff needs to gain a better understand of the potential indirect effects of the proposed project on the local biological resources.

18. Please identify the number of:
 - a. acres of habitat that will be permanently and temporarily impacted by construction of new oil wells and new steamlines, as a result of the project.
 - b. acres of habitat that will be permanently impacted by the construction of any new paved roads that will be constructed as a result of the installation of any new oil wells and steamlines,
 - c. acres of habitat temporarily and permanently impacted by construction of the TNAP utility corridor, and
 - d. steam generators and oil wells that will be removed from operation as part of the proposed project, and plans for habitat restoration.
 - e. existing wells to which project steam will be provided. Also, specify the number of steam generators displaced by the project and the number of wells that will be served by these generators during project operation.

Technical Area: Cultural Resources

Author: Dorothy Torres

ISSUE: To complete its analysis of potential Sunrise project impacts to cultural resources, staff needs additional information on the TNAP utility corridor and the facilities included within it. The AFC refers to a new 20-inch natural gas supply pipeline that will serve the Sunrise project, and it indicates that the natural gas line will be connected to the TNAP utility corridor. The AFC describes two steam injection wells that are being constructed TNAP, and AFC Figure 2-1 indicates these wells are located north of the Sunrise project fence line.

19. Please clarify whether the steam injection wells were included in any cultural resource surveys conducted for the TNAP utility corridor or in the surveys conducted for the Sunrise project.
20. If the TNAP utility corridor was permitted by another entity, please provide documentation on this permit process and a list of studies that were completed for this permit.
21. If a literature search and cultural resource surveys were conducted for areas affected by the construction and operation of all aspects of the TNAP utility corridor, please provide copies of the results of the literature search and surveys. The survey report should contain the names and qualifications of survey personnel, the dates of the surveys, and a description of the level of survey conducted and the methods used.
22. Please confirm whether or not information concerning the TNAP utility corridor, including the steam injection wells and the fuel system and utility interconnections was provided to representatives of the Native American Community.

ISSUE: To complete its analysis of potential Sunrise project impacts to cultural resources, staff needs additional information on the locations of known and newly discovered cultural resource sites and areas of potential sensitivity, in relation to the proposed Sunrise project site and all associated linear facilities.

23. Please provide a new set of confidential maps comparable to Figures 3, 4, & 5, and Figures 6, 7, 8, and 9, that combine the information contained on each of these maps. In other words, please combine the topographic base maps showing the power plant site and switching station and alternative sites, and linear facility routes, including alternative transmission line routes, the areas surveyed for cultural resources, and the location of known and newly-discovered cultural resources. On this new set of cultural resource maps, please also provide Mile Post indicator marks along all of the linear facility routes and a "tic" mark to indicate the half-mile points between post miles.
24. Please provide a map similar to AFC Figure 9 and the map included as page 3 of 4 in the confidential cultural resources supplement to the AFC (dated December 15, 1998). The new map figure should delineate the location of the site originally

proposed for the Valley Acres Switching Station, the recorded and/or estimated boundaries of CA-Ker-116, and the site now proposed for the Valley Acres Switching Station.

ISSUE: To complete its analysis of potential Sunrise project impacts to cultural resources, staff needs additional information on alternative transmission line routes for the Sunrise project.

25. If literature searches and/or cultural resource surveys have been conducted for the proposed alternative routes, please provide copies of any findings, reports, maps, and site records pertinent to cultural resources found in or adjacent to the alternative routes.

ISSUE: During a Pre-AFC workshop on cultural resources, staff was introduced to Mr. Tom Jackson as the lead archeologist for the Sunrise project. In the AFC (page 8.3-11) the list of names of persons involved in the pre-AFC pedestrian surveys conducted for the project does not refer to Mr. Jackson.

26. Please clarify the identity of the lead archeologist. Please provide resumes and qualifications for the lead Cultural Resources Specialist responsible for the information in the Confidential Cultural Resources Inventory. Also provide the names and qualifications for all survey personnel.

ISSUE: To complete its analysis of potential Sunrise project impacts to cultural resources, staff needs additional information on the type and frequency of maintenance activities needed for the power plant and the associated linear facilities.

27. Please provide a discussion concerning the types of maintenance likely to be performed at the project site and on or along the transmission lines. If surface vehicles are to be used, please indicate their type and size. Please indicate whether there are existing roads along the proposed transmission route and the location of any new access roads or spurs needed for the Sunrise project. Discuss any mitigation.

Technical Area: Facility Design
Author: Kisabuli

ISSUE: Appendix I-1, Section 3.3 and page 1-8 of the AFC states that ...site drainage facilities will be designed for a 25-year, 24-hour storm, and also that these facilities will be designed to prevent flooding of permanent plant facilities during a 100-year storm.

28. Please show how facilities designed for a 25-year, 24-hour storm will prevent flooding of permanent facilities from a 100-year storm. Kern County Planning Department requires a 100-year, 24-hour design storm. Please show how you will comply with Kern County design requirements.

ISSUE: The 1997 UBC/1998 CBC does not allow a 33% stress increase for seismic and wind design. The load combinations of section 3.2.8.2, Appendix I-2 and page 2-11 of the AFC include a 33% stress increase.

29. Please show how using the load combinations of section 3.2.8.2 (steel design) will comply with the UBC/CBC design requirements.

ISSUE: Section 1634 of the 1997 UBC/1998 CBC requires that the design of non-building structures (most power plant structures and components fall under this category) shall use the load combinations or factors specified in Section 1612.2 or 1612.3. The load factors and load combination of section 3.2.8.2, Appendix I-2 of the AFC differs very markedly with the UBC/CBC requirements.

30. Please show how using the load factors and load combinations of section 3.2.8.2 will comply with the UBC/CBC design requirements of Section 1612.2 or 1612.3.

ISSUE: Section 1629.8.4 of the 1997 UBC/1998 CBC requires dynamic analysis for: (a) structures having a stiffness, weight or geometric vertical irregularity of Type 1, 2 or 3, as defined in Table 16-L, or structures having irregular features not described in Tables 16-L and 16-M; (b) structures over five stories or 65 feet in height in Seismic Zones 3 and 4 not having the same structural system throughout their height; and (c) structures regular or irregular, located on Soil Profile Type S_F . In order for staff to evaluate compliance:

31. Please provide the site Soil Profile Type as defined in Section 1636 of the 1997 UBC/1998 CBC.
32. Of the major structures, equipment and components identified in the AFC, (Appendix I-2, Section 4) please indicate those that will require dynamic analysis so that the design of major structures, equipment and components will comply with code, and also with the Seismic Hazard Mitigation Criteria of Section 5, Appendix I-2 of the AFC.

ISSUE: Appendix I-2, Section 5 and page 2-70 of the AFC states that ...seismic risk associated with each source of the major fault has been assessed considering historical magnitude and probability of occurrence.

33. In order to allow staff to understand how this risk assessment will be used in seismic design, please provide this report (note: you need only provide five copies of the report).

ISSUE: The contour interval elevations on Figure 2-7 of the AFC are illegible.

34. Please submit a preliminary grading and drainage plan for the power plant and the substations at a scale at which the contour interval elevations are legible. Please include the contour interval in the legend of the grading plan. Staff recommends that a bar scale of one inch equals 50 feet be used for the grading and drainage plan.

ISSUE: In Appendix I-1, Section 3.3.2, Page 1-7 of the AFC, the applicant states that "The preferred slope away from structures will be 1% with a minimum slope of 0.5%. The 1998 edition of the CBC Section 3315.4 states that "Building pads shall have a drainage of 2% toward approved drainage facilities, unless waived by the building official." There is an exception that would allow the applicant to lower the gradient to 1% if certain conditions were met.

35. Please reassess the site grading and drainage to comply with the UBC/CBC and applicable LORS.

Technical Area: Hazardous Materials Management

Author: Rick Tyler

ISSUE: In the Application for Certification, Section 8.12, modeling of a plausible worst case accidental release of anhydrous ammonia was provided. These results indicate that concentrations of ammonia resulting from such a release would exceed the “immediately dangerous to life and health” level on state highway 33 and at the nearest residence without mitigation. A Water Spray curtain is proposed as mitigation. It is assumed that this mitigation would result in a 90 % reduction of off-site concentrations.

36. Please provide design details for the water curtain and a justification for assuming it will achieve 90% control efficiency.

ISSUE: Section 8.12 also includes discussion of a worst case scenario as defined by U.S. EPA for the Risk Management Program. However no modeled results were provided for this scenario. While this scenario may have been considered implausible, no analysis was provided to support such a position or to establish the extent of risk that would be associated with the plausible worst-case scenario.

37. Please provide an analysis of the probability of occurrence for the plausible worst-case and worst-case accidental release scenarios.

Technical Area: Land Use

Author: Amanda Stennick

ISSUE: Page 6-12 of the AFC states that a portion of the transmission line is routed through an active oilfield. A January 21, 1999 letter from Department of Conservation's Division of Oil, Gas, and Geothermal Resources (Division) states that if development results in the construction of a structure within 50 feet of a well, the Division district office in Bakersfield must be contacted to investigate the condition of the wellhead and check for leakage. In addition, the Division recommends that no structure, pipeline or transmission line be built over or in proximity of a well location, as routine maintenance and abandonment operations require the erection of a portable derrick to conduct these and other operations. The Division recommends that projects within active oilfields coordinate activities with well owners so pipeline and transmission line construction does not result in hazardous situations. The Division further requests that the wells be plotted accurately on all future maps related to projects and that a legible copy of the final project map be submitted to the Division district office Bakersfield.

38. Please provide to the Energy Commission and the Department of Conservation's Division of Oil, Gas, and Geothermal Resources (Bakersfield Office) a legible map of all linear facilities, showing all wells within 50 feet of proposed corridors.

ISSUE: Page 8.4-24 of the AFC states that discretionary approval from Department of Conservation's Division of Oil, Gas, and Geothermal Resources will be required to obtain a Permit to Conduct Class II Oil Well Operations. A Notice of Intention, which serves as a permit application will be submitted to the Division district office in Bakersfield in the second quarter of 1999.

39. Please indicate whether the Notice of Intention will satisfy the Division's request that a legible copy of the final project map which accurately plots all wells within 50 feet of the proposed transmission line, be submitted to the Division district office Bakersfield.
 - a. If yes, please provide a copy of the Notice of Intention, as submitted to the Division district office in Bakersfield.
 - b. If no, please provide to the Energy Commission and the Department of Conservation's Division of Oil, Gas, and Geothermal Resources (Bakersfield Office) a legible map as specified in the previous data request.
40. Please provide a copy of a completed application for a tentative parcel map for lease of a 20-acre portion of the 80-acre site, pursuant to the Subdivision Map Act, and the Kern County Land Division Ordinance.

Technical Area: Project Overview

Author: Kristina Bergquist

ISSUE: For purposes of evaluating the indirect impacts of the Sunrise Cogeneration and Power Project (Sunrise), the description of the project, as presented in the AFC and supplement, should be expanded to include the TNAP utility corridor, the 20-inch gas pipeline interconnecting the KRGTC/MPC natural gas pipeline, and any future Midway-Sunset oilfield expansion, including new leaseholds, property acquisitions, and steam sales to business entities other than Texaco and its subsidiaries, occurring within the area affected by the project during the life of the project.

41. Section 1.6.5 of the AFC, as supplemented, states that TNAP will be constructing a 20-inch diameter natural gas pipeline to provide natural gas to the project.
 - a. Please provide the distance in miles between the KRGTC/MPC and the interconnection with the TNAP utility corridor, also referred to as the TCI main utility corridor.
 - b. Specify the width and acreage of the pipeline right-of-way.
 - c. Specify the width and acreage of the construction laydown area.
 - d. Specify the depth and width of the pipeline trench.
 - e. Quantify the cubic yards of cut and fill that will result from the trenching operation. Describe the disposal of the surplus cut.
 - f. Provide a map, at a scale of 1 inch equals 2000 feet, showing the route of this pipeline, the TNAP utility corridor and the power plant.

ISSUE: Staff does not have a sufficient description of the TNAP utility corridor other than it is supported aboveground on a rack.

42. Please provide a description of the support piers for this structure, the number and spacing of the support pier footings, the size of the support piers, the depth to which the support pier footings are placed, the cubic yards of cut and fill that the support pier footing cuts will generate and the means of disposal of the surplus cut.
43. Provide an engineering drawing of the TNAP utility corridor structure.

ISSUE: Section 2.7 of the AFC, as supplemented, states that “approximately 700 wells were drilled in 1998 and more than 600 additional wells are planned in 1999....TNAP’s mid-1998 projections included plans for the addition of up to 35 new steam generators to supplement the current fleet of 52 steam generators.”

44. Specify the number and location of the wells to which project steam will be provided. Also, specify the number of steam generators displaced by the project

and the number and location of wells that will be served by these generators during project operation.

45. Specify the size of the well pads and describe the appurtenant facilities associated with the construction and operation of the wells referred to in data request # 43.
46. Quantify the number of wells to be drilled, beyond 1999, to which project steam will be provided during the life of the project at the most intensive level of development expected.
47. Quantify the construction laydown areas for construction of these and future wells, using the most intensive level of development expected.
48. Describe future plans for the acquisition of leaseholds and real property within the area to which project steam will be provided.
49. Describe future plans to sell steam to business entities other than Texaco and its subsidiaries within the area to which project steam will be provided.

ISSUE: For purposes of evaluating the cumulative impacts of Sunrise, the La Paloma, and Elk Hills power plant projects, other projects in the region of similar type and nature, and the Midway-Sunset and other oilfield expansion, under regulatory consideration in the reasonably foreseeable future, need to be addressed.

50. Please provide a list of projects within the air basin in which the project is located that are permitted and unconstructed or have SJVUAPCD permit applications pending.
51. Please provide the number and locations, existing and future, of oil wells drilled in the Midway-Sunset oilfield during 1998 and 1999 outside of the area to which project steam will be provided.
52. Please provide the number of wells within the Midway-Sunset oilfield to be developed under reasonable, maximum buildout beyond 1999 outside of the area to which project steam will be provided during the life of the project.

ISSUE: The AFC, as supplemented, states that a produced waterline (Section 2.2.6.2), fresh waterline (Section 2.2.6.2), and a wastewater line (Section 2.2.7.1) are planned for the TNAP utility corridor.

53. Please provide the diameters of these pipelines.

ISSUE: The AFC, as supplemented, states that a sixty foot natural gas pipeline is planned to interconnect with the TNAP piperack.

54. Describe the construction of this pipeline. If this line is to be placed underground, specify the width and depth of the trench, the cubic yards of cut and fill, and the

means by which the surplus cut will be disposed. If not, please describe the means by which it will be supported aboveground.

Technical Area: Socioeconomics

Author: Dale Edwards and Joe Diamond

ISSUE: The AFC does not provide information on the number of workers required for construction of the following Sunrise Cogeneration and Power Project related facilities. These facilities are: TNAP utility corridor, the 20-inch gas pipeline interconnecting the KRGTC/MPC natural gas pipeline, and any future Midway-Sunset oil field expansion, including new leaseholds, property acquisitions, and steam sales to business entities other than Texaco and its subsidiaries, occurring within the area affected by the project during the life of the project. This information is necessary to identify indirect impacts on schools, housing, fire, police, emergency services, and utilities, etc., which may result from the project.

55. Please provide the estimated number of workers by craft, and the construction schedule identifying average and peak workers, the estimated number of operational jobs and expected operational life for the project related activities above, and the estimated number of non-local workers (not from the local labor pool) and your rationale for this number.

ISSUE: The AFC does not provide information on the number of workers required for construction of the following facilities: Projects in the region of similar type and nature, (not including La Paloma and Elk Hills as this information has already been provided) and the Midway-Sunset power plant and oil field expansion and other oil field expansion, under regulatory consideration in the reasonably foreseeable future. This information is necessary to identify cumulative impacts on schools, housing, fire, police, emergency services, and utilities, etc., which may result from multiple projects being constructed at the same time.

56. Please provide the number of non-local workers (not from the local labor pool) that will be used because of overlapping construction schedules of the projects identified above in the issue statement for data request # 55, and your rationale for the number of non-local workers.
57. Please provide the rationale and backup calculations for the estimate of non-local workers for the Sunrise project.

ISSUE: The AFC does not include an employment multiplier analysis for the projects identified in data request # 55.

58. Please provide the IMPLAN employment multiplier(s) for the projects identified above in data request # 55 that it is consistent (i.e., includes direct, indirect, and induced components) with the Sunrise Cogeneration and Power Project AFC filing as well as the La Paloma and Elk Hills AFCs.

Technical Area: Soil and Water Resources

Author: Joe O'Hagan

ISSUE: Construction and operation of the Project may induce water and wind erosion at the power plant site and along the associated linear facilities. Stormwater runoff may also contribute to erosion and sedimentation as well as transport pollutants off-site.

59. Provide a draft erosion control and sedimentation plan that identifies all measures that will be implemented at the proposed Sunrise Cogeneration and Power Project. The draft erosion control plan shall identify all permanent and temporary measures in written form and depicted on a construction drawing(s) of appropriate scale. The purpose of the draft plan is to minimize the area disturbed, to protect disturbed areas, to retain sediment on-site and to minimize off-site effects of stormwater runoff. The elements of the plan shall include any revegetation efforts and best management measures to control stormwater runoff during construction. In addition, any measures necessary to address Nationwide Permits, Section 404 Permits, or Streambed Alteration Agreements, as required, should be identified. Revegetation efforts should address both erosion control and habitat restoration. The plan should specify the type of seed and fertilizer, seeding and fertilizer rate, application method, the type and size of any container plants to be used and the criteria for judging revegetation success. The plan should also identify maintenance and monitoring efforts for all erosion, stormwater runoff control and revegetation measures including measures to rectify unsuccessful revegetation efforts.

ISSUE: Sunrise has proposed two injection wells for the disposal of steam during start-up and shutdown when steam quality is insufficient for the needs of TNAP. The California Department of Conservation, Division of Oil and Gas will permit the installation and operation of the proposed injection wells, pursuant to CCR Title 14, Section 1714 et seq. To ensure proper evaluation of the project, Texaco should apply for and receive approval from the Division of Oil and Gas for the proposed injection wells prior to preparation of the FSA.

60. Provide CEC staff with a copy of the information contained in an application to the California Department of Conservation, Division of Oil and Gas for approval of the installation and operation of the two proposed injection wells. Texaco shall provide staff with a copy of additional information submitted to the Division of Oil and Gas and a schedule when permitting is anticipated. Please include information regarding abandonment of the two injection wells when the proposed power plant is closed.

ISSUE: Estimated average and maximum annual water consumption figures generally under and over estimate a project's water demand, respectively. This is because a facility does not operate year round completely in average or maximum conditions. The Water Mass Balance (Figure 2-5) indicated that 40.2 gallons per minute (gpm) would be used (21,129,120 gallons or 64.87 acre-feet per year). The maximum usage of freshwater will be 141.5 gpm corresponding to 228.32 acre-feet per year.

61. Please clarify how the annual water usage average of 17,187,120 gallons (52.7 acre-feet per year) on page 8.14-10 of the AFC for West Kern Water District water was calculated.

ISSUE: The AFC did not identify the size for the demineralized water and feedwater storage tanks.

62. Submit the anticipated sizes for the demineralized water storage tank (AFC, pg. 2-30) and the feedwater storage tank (AFC, pg. 2-30).

ISSUE: Pages 8.13-5 and 8.13-6 and Figure 8.14-2 in the AFC indicates that those wastewater streams that are to be disposed of at the Valley Waste Disposal Company's Buena Vista II Facility will be collected in a underground wastewater storage tank. These wastewater streams will include stormwater flows from bermed or graded areas around equipment or operations that could be contaminated. Furthermore, the Kern County Hydrology Manual specifies drainage facilities to be designed to accommodate the 100-year, 24-hour storm.

63. Please identify on a plot plan those areas where stormwater runoff will be routed to the underground wastewater storage tank and then to the Valley Waste disposal facility. Provide an estimate of the anticipated flows for a 100-year, 24-hour storm from these areas that will be routed to this tank and the design capacity for this underground waste storage tank. The information submitted should clearly demonstrate how drainage will be segregated to ensure that only stormwater which has not come into contact with potential contamination drains into natural channels.

ISSUE: Injection wells operated by Valley Waste Disposal Company are the proposed disposal locations for wastewater generated by the proposed project. According to Valley Waste (Bright, 1999), Division of Oil and Gas' approval will be obtained prior to Valley Waste's disposal of the Sunrise's wastewater streams. The Division of Oil and Gas may also set forth-monitoring requirements for these waste streams.

64. Please provide documentation from Valley Waste Disposal Company that they will accommodate the volume and quality of the proposed project's waste streams. Also document any requirements imposed by the Division of Oil and Gas on Valley Waste or the proposed project for disposal of Sunrise's waste stream. Also, include the methods used to comply with Division of Oil and Gas' or Valley Waste's requirements.

ISSUE: Page 2-18 of the AFC states that TNAP will provide softened, chemically conditioned produced water for the proposed project. Information is needed on the TNAP treatment facilities and the specific produced water treatment processes.

65. Please describe the location and capacity of the TNAP facility treating the produced water before it is delivered to the proposed project. Identify the specific treatment processes that are performed on the produced water, including pre-and post-treatment water quality information.

ISSUE: Construction and operation of the proposed project may lead to indirect impacts due to oil field expansion, development of the utility line corridor and other associated pipelines. Furthermore, project specific and indirect impacts may contribute to significant cumulative impacts to soil and water resources.

66. Please provide an estimate of the volume of produced water that will result from oil field expansion and a discussion of how this water will be disposed of and a description of the disposal facilities, including its capacity to accommodate this volume of water.
67. Please provide a description of erosion control efforts, including any revegetation efforts, that was or will be used in construction and operation of the following facilities: the TNAP utility corridor, the 20-inch gas pipeline interconnecting the KRGTC\MPC natural gas pipeline, and expansion of the associated oil field. For the oil field, measures identified should include those for development, operation and retirement of the field.

Technical Area: Transmission System Engineering
Author: Ean O'Neil

ISSUE: Staff needs a complete interconnection study to analyze the reliability implications of connecting the Sunrise project to the PG&E system. Such interconnection must comply with North American Electric Reliability Council (NERC) Planning Standards, Western Systems Coordinating Council (WSCC) Reliability Criteria and the recently adopted California Independent System Operator (Cal-ISO) Reliability Criteria.

68. Please provide a complete interconnection study which demonstrates that the Sunrise project can be reliably accommodated by the existing system, or in the alternative, identify the mitigation measures which are recommended, and which the applicant accepts, to assure conformance with NERC, WSCC and Cal-ISO reliability criteria. While staff does not have sufficient information at present to comment in detail on what additional information is missing, the study results must be of sufficient scope and detail to confidently identify whether "downstream" transmission upgrades will be needed and/or whether remedial action scheme(s) are required to meet the applicable reliability criteria. Additionally, the study scope must be sufficient for the Cal-ISO's review and the preparation of their Conclusions, Recommendations and Findings on the proposed interconnection in accordance with the Cal-ISO/PG&E Transmission Control Agreement, Section 10.

Technical Area: Visual Resources

Author: Gary Walker

ISSUE: The AFC (p.8.11-2) states that “commuters and non-recreational travelers generally have fleeting views and tend to focus their attention away from surrounding scenery and onto commute traffic. For this reason, a viewer group composed of commuting travelers is generally considered to have low aesthetic sensitivity.” The AFC (p.8.11-20) also states that “roads in this area are used predominantly by local commercial traffic to haul petroleum” and that “employment status viewers typically have very low visual sensitivity, relative to residents, recreationists, or commuters, which are not prevalent in this area.” However, AFC Table 8.10-1 (p.8.10-7) shows that the annual average daily traffic on State Route 33 at Midway Road was 10,600 in 1998, and that the annual average daily truck traffic was 2,544, or 24 percent of total traffic. Staff needs additional information regarding the existing visual setting.

69. Please provide an estimate of the annual average daily traffic by commuters, non-commuters, and recreational travelers on State Route 33 in this area.

ISSUE: AFC Table 8.10-1 also shows that the annual average daily traffic on State Route 119 at State Route 43 North (near the proposed transmission line crossing of State Route 119) was 8,400 in 1998, and that the annual daily truck traffic was 1,848, or 22 percent of total traffic.

70. Please provide an estimate of the annual average daily traffic by commuters, non-commuters, and recreational travelers on State Route 119 in this area.

ISSUE: The AFC (p.8.11-3) states that the site is located in “a rural area characterized by several energy development-related facilities and very few residences or other aesthetically sensitive land uses.”

71. Please specify the location of the nearest residence and the distance from the proposed power plant site.

ISSUE: The AFC does not specify whether any visible plumes from industrial facilities exist in the project viewshed.

72. If visible plumes exist, please identify their source(s), location(s) (on a map), approximate size(s), frequency of occurrence (if determinable), and duration (if determinable).

ISSUE: The AFC (p.8.11-19) describes existing transmission lines near the proposed transmission line route.

73. Please specify the height, type of structure (lattice, pole, or double pole), and the material (wood or steel), of the transmission structures for each of the existing transmission lines within one mile of the proposed transmission line route.

ISSUE: The January 27, 1999 revision to the AFC states (p.8.11-20) that the intersections of the transmission line corridor with State Routes 119 and 33 are “marginal in quality.” This terminology is not consistent with the methodology used in preparing the AFC, which uses a range from high to low quality (p.8.11-2).

74. Please describe the visual quality at these locations in terms of the range from high to low, as used in the description of the methodology.

ISSUE: The AFC (p.8.11-21) states that “the Sunrise Project and associated development is proposed at a location adjacent to existing petroleum development facilities and other industrial development.”

75. Please explain whether this characterization applies to the proposed transmission line route where it crosses State Route 119. If it does not, please provide a characterization of that area.

ISSUE: The AFC (p.8.11-23) also states that “aesthetic sensitivity of viewers within the area is considered low due to the activity of the viewers and the fact that they are accustomed to industrial facilities in the area, specifically overhead transmission lines.”

76. Please explain whether this applies to the State Route 119 crossing. If it does not, please provide a characterization of that area.

ISSUE: Staff needs to understand the methodology used in the AFC visual analysis and the implementation of the methodology. The methodology that the AFC (p.8.11-2) says was used for the visual assessment includes determining visual quality, and specifies three factors (vividness, intactness, and unity) to be used in determining visual quality. However, the analysis in the AFC (p.8.11-19) and in the 1-27-99 supplement includes only an assessment of the factors, and does not make an assessment of the resultant visual quality.

77. Please provide an assessment of the visual quality of the areas that will be affected by the proposed project, for both the existing setting and after project construction.

ISSUE: The AFC (p.8.11-2) states that “the measure of the quality of a view must be balanced by the overall sensitivity of the viewer.”

78. Please explain what “the overall sensitivity of the viewer” means, and how the quality of a view is balanced by the overall sensitivity of the viewer. Is some weighting process used?

ISSUE: The AFC (p.8.11-3) describes “visibility” and “visual dominance” but does not explain how these factors are considered in the AFC analysis.

79. Please provide such an explanation.

ISSUE: The AFC (pp.8.11-23 to 8.11-24) provides an assessment of the visual effects of the proposed transmission line. However, the only local road specified in the analysis is Midway Road, in an area of heavy oil development.

80. Please explain whether the impact described is applicable to the transmission line route where it crosses State Route 119. If it is not, please provide an assessment of the impact for this area.

ISSUE: Staff needs to know the characteristics of the visible heat exhaust stack plume for the project.

81. Please provide the following information regarding the potential visible plume from the heat exhaust stack:
- a. Quantified estimates of the expected maximum and average height and width.
 - b. The data, assumptions, and calculations used to derive these estimates, including the model used.
 - c. Quantified estimates of the expected frequency of occurrence and duration, specifying:
 - 1) the number of hours that the plume will be visible, for each hour of the day per year;
 - 2) the total number of hours per year that the plume will be visible;
 - 3) the percentage of the total number of hours per year that the plume will be visible;
 - 4) the number of daylight hours per year that the plume will be visible;
 - 5) the percentage of daylight hours per year that the plume will be visible; and
 - 6) the data, assumptions, and calculations used to derive these estimates, including the model used.

ISSUE: Staff needs to determine the accuracy of the visual simulations provided in the AFC.

82. The AFC contains visual simulations of the power plant and transmission line.
- a. Please describe the methodology used to create the simulations.
 - b. Please provide information that allows a reviewer to verify that the simulated sizes of the proposed facilities are accurate. Include a

description of the means for verifying the accuracy of the simulations. Specify whether dimensions of existing features were used. If so, for AFC supplement figures 8.11-16b, 8.11-17b, and 8.11-18b, specify those features, their locations on a map with scale, and their dimensions. Specify whether survey poles or other markers were used. If so, show their location in the photograph and on a map with scale. Provide copies of any intermediate documents used in creating the simulations, including photographs showing control points, and wire frame overlays of project components.

- c. The AFC (p.811-19) states that “a steel structure-supported line nears the Valley Acres Substation area, with structures greater in height and with a more substantial profile than the Sunrise Project structures (see Figure 8.11-15).” Because the AFC shows only the simulated view after the proposed structures are built, it is not possible for a reader to discern which structures are part of the existing setting. Please provide a photographic reproduction of the view used for Figure 8.11-5, without the proposed structures.

ISSUE: Staff needs information regarding project alternatives to perform its analysis.

83. The AFC (Section 5.4.4, p.5-15.) discusses alternative transmission line routes A, A1, and B in regard to visual resources. The section states that “overall, Route B appears to have a slight advantage over Routes A and A1 with respect to potential visual resource impacts.” However, the discussion does not explain why the applicant concludes that Route B appears to have a slight advantage over Routes A and A1 with respect to potential visual resources impacts. Please provide such an explanation.
84. The AFC (Section 5.4, p.5-10) states that selection of the transmission line route and substation location included consideration of environmental impacts, ability to acquire control of substation site land and obtain rights-of-way required for the line, and potential engineering constraints. The AFC (p.5-12) also states that “Route A is preferred primarily because of its shorter length” and that “Route A, together with the Valley Acres Substation, would be expected to have the lowest cost and the least overall potential for impacting environmental resources.” However, examination of the subsequent discussion of environmental resources reveals that Route B is preferable in regard to both cultural resources and visual resources, while Route A is considered preferable only in regard to biological resources, and no explanation is given of a preference between Routes A and B in regard to land use. Please explain the method used to reach the conclusion that Route A, together with the Valley Acres Substation, would be expected to have the least overall potential for impacting environmental resources. If the method included differential weighting of the importance of the various environmental resources, please describe it.